

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (908) 549-3900
Fax: (908) 549-3679

CHECKED IN

5/17/94

DATA ENTERED

92050

May 12, 1994

J.M. Sorge, Inc.
50 County Line Road
Somerville, NJ 08876

Attention: Mr. Chris Finley

Re: Job No. G549 - Hovnanian-Newark

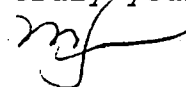
Dear Mr. Finley:

Enclosed are the results you requested for the following
samples taken 5/6/94:

<u>Lab No.</u>	<u>Client ID</u>	<u>Analysis Requested</u>
96827	T409-4A	PHC
96828	T409-4B	PHC
96829	T409-4C	PHC
96830	T409-4D	PHC
96831	T409-4E	PHC

Please call me at 549-3900 if you have any questions.

Very truly yours,



Michael J. Urban
Laboratory Manager

KHOV005438

ENVIROTECH RESEARCH, INC.

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KHOV005439

ENVIROTECH RESEARCH, INC.

Site: Hovnanian-Newark

Lab Job No: G549

Date Sampled: 5/6/94

Date Extracted: 5/9/94

Date Received: 5/6/94

Date Analyzed: 5/10/94

Matrix: SOIL

QA Batch 2802

PETROLEUM HYDROCARBONS

<u>Envirotech Sample #</u>	<u>Client ID</u>	<u>% Moisture</u>	<u>Dilution Factor</u>	<u>Analytical Result mg/kg (Dry Wt.)</u>
96827	T409-4A	20.4	1.0	29.3
96828	T409-4B	16.0	1.0	307
96829	T409-4C	15.9	1.0	476
96830	T409-4D	15.3	1.0	165
96831	T409-4E	15.5	1.0	44.4

Quantitation Limit for Petroleum Hydrocarbons is 25 mg/kg for an undiluted sample.

KHOV005440

J286549

PROJECT NAME: HAWAIIAN NUCLEAR PROJECT No.: 92050

JM SORGE, INC.

COLLECTED BY: T. Ber SIGNATURE: T. BerC.O.C. No.: 2010

CHAIN OF CUSTODY RECORD

SPL No.	DATE SPLD.	TIME SPLD.	SAMPLING POINT AND SAMPLING METHOD DESCRIPTION	SAMPLE MATERIAL	ANALYSIS	REMARKS
T404-4A	5-6-94	1115	POST-EXHAUSTION SAMPLE COLLECTED AT 810 OF UNIT AT 70-710	SOIL	THC	ECRA DELIVERABLES
T404-4B	5-6-94	1120			THC	NOTE: IF 25% of
T404-4C	5-6-94	1125			THC	SAMPLES CONTAINING MORE THAN 25% of THC THEN ANALYZE FOR VOC
T404-4D	5-6-94	1130			THC	
T404-4E	5-6-94	1135			THC	

96827

96828

96829

96830

96831

C.O.C. # 2010

RELINQUISHED BY	ORGANIZATION	DATE / TIME	RECEIVED BY	ORGANIZATION	DATE / TIME	REMARKS
<u>JA</u>	JM SORGE, Inc	5-6-94 / 1130	<u>DO - Co</u>	Environment	5/6/94 1430	

**INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE**
ENVIROTECH RESEARCH, INC.
777 NEW DURHAM ROAD, EDISON, NJ 08817
(908) 549-3900

Client: J.M. Sorge, Inc.

Date Sampled: 5/6/94

Site: Hovnanian-Newark

Date Received: 5/6/94

Matrix: SOLID

Job No.: G549

Sample No.: 96827

Analytic Parameter	Extraction Date	Extractor's Name	Analysis Date	Analyst's Name	QA Batch
PET HYDROCARBONS	5-9-94	AA	5-10-94	PJ	2802
PPVOA+10					

KHOV005442

**INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
ENVIROTECH RESEARCH, INC.
777 NEW DURHAM ROAD, EDISON, NJ 08817
(908) 549-3900**

Client: J.M. Sorge, Inc.

Date Sampled: 5/6/94

Site: Hovnanian-Newark

Date Received: 5/6/94

Matrix: SOLID

Job No.: G549

Sample No.: 96828

Analytic Parameter	Extraction Date	Extractor's Name	Analysis Date	Analyst's Name	QA Batch
PET HYDROCARBONS	5-9-94	AK	5-10-94	PJ	2802
- PPVOA+10					

KHOV005443

**INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE**

ENVIROTECH RESEARCH, INC.

777 NEW DURHAM ROAD, EDISON, NJ 08817
(908) 549-3900

Client: J.M. Sorge, Inc.

Date Sampled: 5/6/94

Site: Hovnanian-Newark

Date Received: 5/6/94

Matrix: SOLID

Job No.: G549

Sample No.: 96829

Analytic Parameter	Extraction Date	Extractor's Name	Analysis Date	Analyst's Name	QA Batch
PET HYDROCARBONS	5-9-94	NA	5-10-94	PD	2802
PPVOA+10					

KHOV005444

**INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
ENVIROTECH RESEARCH, INC.
777 NEW DURHAM ROAD, EDISON, NJ 08817
(908) 549-3900**

Client: J.M. Sorge, Inc.

Date Sampled: 5/6/94

Site: Hovnanian-Newark

Date Received: 5/6/94

Matrix: SOLID

Job No.: G549

Sample No.: 96830

Analytic Parameter	Extraction Date	Extractor's Name	Analysis Date	Analyst's Name	QA Batch
PET HYDROCARBONS	5-9-94	RA	5-10-94	PN	2802
PPVOA+10					

**INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE**

ENVIROTECH RESEARCH, INC.

777 NEW DURHAM ROAD, EDISON, NJ 08817

(908) 549-3900

Client: J.M. Sorge, Inc.

Date Sampled: 5/6/94

Site: Hovnanian-Newark

Date Received: 5/6/94

Matrix: SOLID

Job No.: G549

Sample No.: 96831

Analytic Parameter	Extraction Date	Extractor's Name	Analysis Date	Analyst's Name	QA Batch
PET HYDROCARBONS	5-9-94	HL	5-10-94	PN	2802
- PPVOA+10					

KHOV005446

Analytical Methodology Summary

Volatile Organics:

Water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Solid samples are analyzed for priority pollutant volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8240. Water samples are analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) by GC-PID as specified in EPA Methods 503.1 and 602. Solid samples are analyzed for BTEX as specified in EPA Method 8020.

Acid and Base/Neutral Extractable Organics:

Water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable priority pollutants as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8240 and 8270. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatiles, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8080.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1.

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Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic
Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050 "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471. Other specific Atomic Absorption method references are as follows:

<u>Element</u>	<u>Water Test Method</u>		<u>Solid Test Method</u>	
	<u>Flame</u>	<u>Furnace</u>	<u>Flame</u>	<u>Furnace</u>
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

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Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.2. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.1. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA, Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611 Alumina Column Cleanup and/or Method 3650 Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability - Method 1020

Corrosivity - Water pH Method 9040
Soil pH Method 9045

Reactivity - Chapter 7, Section 7.3.3 and 7.3.4
respectively for hydrogen cyanide
and hydrogen sulfide release.

Toxicity - TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

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NON-CONFORMANCE SUMMARY

Envirotech Research, Inc. Job Number: 6549

Volatile Organics Analysis:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

ENVIROTECH RESEARCH, INC.

Non-conformance Summary, Page 2 of 2
Envirotech Research, Inc. Job Number: 6549

Metals Analysis:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

Total Petroleum Hydrocarbons:

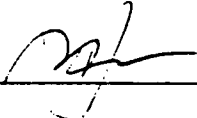
All data conforms with method requirements ✓; or
Analysis was not requested ____; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

General Chemistry/Disposal Parameters:

All data conforms with method requirements ____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

Signature of
Laboratory Manager: 

Date: 5/12/94